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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,276	04/26/2004	Chao-Yung Chu	NAUP0539USA	3275

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EXAMINER

ROSASCO, STEPHEN D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/709,276

Applicant(s)

CHU ET AL.

Examiner

Stephen Rosasco

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/21/05</u> | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Galan et al. (6,893,780).

Galan et al. teach the claimed invention including a photomask, comprising: a substrate; and a patterned layer formed on at least a portion of the substrate, the patterned layer including: an active region; a frame region including a fuse pattern operable to monitor electrostatic stress associated with the photomask; and an electrostatic discharge (ESD) pattern formed between an outer perimeter of the active region and an inner perimeter of the frame region, the ESD pattern operable to reduce ESD effects between the frame region of the patterned layer and the active region of the patterned layer.

And wherein the ESD pattern forms the inner perimeter of the frame region of the patterned layer.

Galan et al. also teach (col. 6, lines 31-48) that in the ESD pattern exposes the surface of the substrate around an outer perimeter of an active region, a pellicle frame may be mounted on the exposed surface with an adhesive layer such that a pellicle film protects the active region. Since there is less adhesive force between the substrate and the adhesive

layer, less force is required to remove the pellicle assembly and thus, the potential for warping or otherwise damaging the photomask is reduced. Furthermore, adhesive residue that remains on the photomask after the pellicle assembly is removed is much easier to clean off of the substrate than the patterned layer, resulting in less damage to the photomask.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng et al. (6,440,617) or Su (6,869,733) in view of Galan et al. (6,893,780).

Deng et al. teach a photomask structure with an anti-electrostatic-discharge ability, comprising: a photomask having a first surface, wherein a pattern is located on the first surface; a conductive dust pellicle; a conductive frame, wherein the conductive dust pellicle is electrically coupled with the photomask through the conductive frame and the pattern is enclosed by the conductive dust pellicle, the conductive frame and the photomask; and a conductive film covering a surface of the photomask uncovered by the conductive dust pellicle and the conductive frame, wherein the conductive dust pellicle, the conductive frame and the conductive film constitute a conductive structure enclosing the photomask.

Su teaches the claimed invention (see claims) including a pellicle 14 is fastened to frame 20 by applying an adhesive 18b to one of the two open rectangular sides of frame 20. Layer 22d on pellicle 14 is positioned over the open side of frame 20 with layer 18b and pressed against it to form a connection by means of adhesive 18b on frame 20. After a sufficient drying period that is typically 10 minutes, the frame 20 and attached pellicle 14 are ready to connect to substrate 10 of the reticle. The adhesive can be selected from a group comprised of conducting and anti-static materials and is preferably Fluoro-acrylate, which is an anti-static material. The adhesive used to form the bond between pellicle 14 and frame 20 is then applied to the other open rectangular side of frame 20 to form layer 18a. Layer 18a on frame 20 is then positioned over substrate 10 and pressed against it to form a connection.

The teachings of Deng et al. or Su differ from those of the applicant in that the applicant teaches the ESD protection is formed by a ring region where the pellicle is bonded to the substrate around the mask pattern.

Galan et al. is included here as described above.

Also the limitation that the transparent electrostatic discharge ring is utilized to examine a binding condition between the pellicle and the transparent substrate is an intended use limitation, and therefore cannot be given any weight in an article claim.

It would have been obvious to one having ordinary skill in the art to take the teachings of Deng et al. or Su and combine them with the teachings of Galan et al. in order to make the claimed invention because of the advantages described by Galan et al. such as ease and cleanliness of removal of the pellicle from the substrate surface.

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Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Stephen Rosasco whose telephone number is (571) 272-1389. The Examiner can normally be reached Monday-Friday, from 8:00 AM to 4:30 PM. The Examiner's supervisor, Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'S. Rosasco', with a stylized, elongated flourish extending to the right.

S. Rosasco
Primary Examiner
Art Unit 1756

S. Rosasco
09/28/06